

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) Apparatus, comprising: including
a media reader having a read element capable of being communicatively coupled to a
DVD compliant with the CSS specifications and containing digital content;
a storage element including an input disposed for receiving the digital content from the
media reader a DVD, the storage element being capable of non-evanescently storing that the
digital content using a storage technique substantially different from the DVD, the digital content
from the DVD complying with a CSS license to discourage unauthorized copying of the digital
content; and
a playback device coupled to the storage element, the playback device having an input
disposed for receiving the digital content and an output configured to output a media stream
derived from the digital content, having an output disposed for coupling a media stream
represented by that digital content for presentation, the digital content complying with the CSS
license at the input scrambled in accordance with a content scramble system (CSS) of the
playback device to discourage unauthorized copying of the digital content; and
— a media reader, the media reader having a read element capable of being coupled to the
DVD.

2. (Currently Amended) Apparatus as in claim 1, wherein the output ~~for presentation~~ includes a signal following standards for protected signals specified by the CSS specifications ~~license~~.

3. (Currently Amended) Apparatus as in claim 1, whereby the playback device includes a CSS Descrambler ~~descrambler~~.

4. (Currently Amended) Apparatus as in claim 1, whereby the playback device ~~incorporates and~~ implements the functionalities of Disc Key Recovery Logic, Title Key Recovery Logic, and the Content Scrambling Algorithm, and ~~incorporates~~ utilizes the Master Key pair.

5. (Original) Apparatus as in claim 1, whereby the playback device does not incorporate or implement the functionality of the CSS Authentication Algorithm, or incorporate the Authentication Key.

6. (Currently Amended) Apparatus as in claim 1, whereby the media reader does not ~~incorporates~~ incorporate or implement the functionalities of any of Disc Key Recovery Logic, Title Key Recovery Logic, or the Content Scrambling Algorithm, or incorporate the Master Key pair.

7. (Original) Apparatus as in claim 1, whereby the media reader incorporates and implements the functionality of the CSS Authentication Algorithm, and incorporates the Authentication Key.

8. (Currently Amended) Apparatus as in claim 1, whereby the media reader comprises ~~is~~ ~~or contains~~ an Authenticator for CSS Decryption Module and the playback device comprises ~~is~~ ~~or contains~~ a CSS Descrambler, ~~such terms as defined in the CSS Procedural Specifications.~~

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Currently Amended) Apparatus as in claim 1, wherein the main printed circuit board of the playback device has at least five layers, and signals containing unscrambled compressed audiovisual data or key material used in unscrambling digital content run wherever feasible on traces in interior layers of the board.

15. (Currently Amended) Apparatus as in claim 1, wherein a signal containing unscrambled compressed audiovisual data or key material is processed by an integrated circuit included in said playback device, wherein said circuit is area-array packaged and surface-mounted, and wherein said signal is routed via interior contacts of said integrated circuit whenever feasible ~~those integrated circuits in the playback devices signals containing unscrambled compressed audiovisual data or key material run are area-array and such signals run wherever feasible on interior contacts of such integrated circuits, and wherein those integrated circuits are surface-mounted.~~

16. (Currently Amended) Apparatus as in claim 1, whereby a user can only control ~~interact with~~ the apparatus through either an on-screen display and associated touchpad and IR remote control protocols, or through a Web user interface.

17. (Currently Amended) Apparatus as in claim 1, wherein said media stream comprises analog audio data, and whereby said, ~~the~~ audio data output from the playback device is either in a compressed format or else in a Linear PCM format in which the transmission information is sampled at no more than 48 kHz and no more than 16 bits.

18. (Currently Amended) Apparatus as in claim 1, wherein said media stream comprises analog video data, and whereby said, ~~the~~ analog video data output from the playback device does

not have higher resolution than standard definition, unless the digital content ~~recorded on the DVD~~ has itself that higher resolution.

19. (Currently Amended) Apparatus as in claim 1, further comprising:
a plurality of playback devices coupled to the storage element, each of said plurality of
playback devices having an input disposed for receiving the digital content and an output
configured to output a media stream derived from the digital content,
wherein each of said plurality of playback devices is operable to output a different media stream.
~~the playback device includes a plurality of those outputs disposed for presentation, at least two of~~
~~those the plurality of outputs pairwise having more than one controlling CPU and at least one of~~
~~the properties in the set: being logically remote, being physically remote.~~

20. (Currently Amended) Apparatus as in claim 1, wherein the ~~playback device includes~~
~~at least one of those outputs disposed for presentation having~~ output has a distinct controlling
CPU from the storage element and ~~having~~ has at least one of the properties in the set: being
logically remote from the storage element, being physically remote from the storage element.

21. (Currently Amended) Apparatus as in claim 1, the digital content being maintained
in a protected form

between the DVD and the media reader,

between the media reader and the storage element,

when ~~maintained~~ stored on the storage element, and

between the storage element and the playback device.

22. (Original) Apparatus as in claim 21, wherein
at least two elements in the set: the storage element, the playback device, the media reader;
have, pairwise, at least two of the properties in the set: being logically remote, being physically remote, having more than one controlling CPU.

23. (Original) Apparatus as in claim 21, wherein
at least two elements in the set: the storage element, the playback device, the media reader;
are pairwise physically remote, and have separate controlling CPUs.

24. (Original) Apparatus as in claim 1, wherein the media reader includes at least one DVD reader.

25. (Previously Presented) Apparatus as in claim 1, wherein the media reader includes a DVD drive.

26. (Previously Presented) Apparatus as in claim 1, wherein the storage element includes a magnetic disk drive.

27. (Currently Amended) Apparatus as in claim 1, wherein the digital content is maintained in a protected form for at least two cases in the set:

between the DVD and the media reader;

between the media reader and the storage element;

when ~~maintained~~ stored on the storage element;

between the storage element and the playback device.

28. (Currently Amended) Apparatus as in claim 1, wherein the digital content is maintained in a protected form for at least three cases in the set:

between the DVD and the media reader;

between the media reader and the storage element;

when stored on the storage element;

between the storage element and the playback device.

29. (Currently Amended) Apparatus as in claim 21, wherein the protected form includes at least ~~two~~ one of:

an encrypted form of the digital content;

an encrypted form of the digital content scrambled in accordance with CSS; complying with the CSS license;

a form of the digital content including digital rights information;

a form of the digital content including digital rights information for which it is substantially difficult to remove that digital rights information.

30. (Original) Apparatus as in claim 21, wherein the protected form has at least one of the properties in the set:

resistant to attempts to defeat copy protection afforded by the protected form,
impossible to defeat using user tools,
difficult to defeat using professional tools.

31. (Original) Apparatus as in claim 21, wherein the protected form has at least two of the properties in the set:

resistant to attempts to defeat copy protection afforded by the protected form,
impossible to defeat using user tools,
difficult to defeat using professional tools.

32. (Currently Amended) Apparatus as in claim 21, wherein the protected form is substantially resistant to attempts to defeat copy protection afforded by the protected form, is substantially impossible to defeat using user tools, and is substantially difficult to defeat using professional tools.

33. (Currently Amended) Apparatus as in claim 1, wherein the media reader includes a first authenticator and the system exclusive of the media reader includes a second authenticator.

34. (Currently Amended) Apparatus as in claim 33, wherein the ~~system~~ apparatus complies with the CSS specifications ~~procedures~~.

35. (Currently Amended) Apparatus as in claim 33, wherein the system is capable of having the first authenticator and ~~[the]~~ [a]second authenticator authenticate each other before the media reader permits access to data.

36. (Canceled)

37. (Previously Presented) Apparatus as in claim 1, wherein the storage element has capacity to concurrently store digital content from plural DVDs.

38. (Currently Amended) Apparatus as in any of claims 1 or 20 or 21 or 32 or 33, wherein operation of the system ~~includes~~ allows for at least a substantial time duration between a first time of storage of the digital content at the storage element, and a second time of output of any media stream derived therefrom ~~in response thereto~~.

39. (Currently Amended) Apparatus as in any of claims 1 or 20 or 21 or 32 or 33, wherein the digital content ~~is~~ can be transported ~~[any]~~ [a] substantial distance after being read by the media reader and before being output by the playback device.

40. (Currently Amended) Apparatus as in any of claims 1 or 20 or 21 or 32 or 33, including ~~at least one~~ [a] system internal link, ~~the at least one system internal link including a link able~~ operable to communicate compressed digital data representing media streams[₁][₂]

wherein at least one of the following communicated using the system internal link is not substantially accessible to an external entity without an authorized cryptographically secure key: digital information representing at least one media stream, digital rights information, digital rights key information.

41. (Currently Amended) Apparatus as in claim 40, including ~~steps of coupling by a least one~~ via the system internal link, at least two of the set: the media reader, the storage element, the playback device.

42. (Canceled)

43. (Canceled)

44. (Canceled)

45. (Currently Amended) A method of playing a DVD, including steps of reading the DVD including digital content representing at least one media stream ~~in compliance with a~~ scrambled in accordance with a content scramble system (CSS) CSS license

~~to discourage unauthorized copying of the media stream, the digital content being maintained in a protected form;~~

non-evanescently storing the digital content in [a] ~~the~~ protected form using a storage mechanism different from the DVD; and

playing back the digital content after conversion into analog, digital, or analog and digital audiovisual content ~~in a second protected form~~ for presentation.

46. (Previously Presented) A method as in claim 45, wherein additional protection is used on the DVD, by the storage mechanism, or both.

47. (Previously Presented) A method as in claim 46, wherein the additional protection used on the DVD is different from the additional protection used by the storage mechanism.

48. (Original) A method as in claim 45, wherein the protected form is scrambled in accordance with CSS ~~complies with CSS procedures~~.

49. (Original) A method as in claim 48, whereby the step of playing back incorporates and implements the functionalities of Disc Key Recovery Logic, Title Key Recovery Logic, and the Content Scrambling Algorithm, and involves the Master Key pair.

50. (Original) A method as in claim 48, whereby the step of playing back does not incorporate or implement the functionality of the CSS Authentication Algorithm, or incorporate the Authentication Key.

51. (Original) A method as in claim 48, whereby the step of reading does not incorporate or implement the functionalities of any of Disc Key Recovery Logic, Title Key Recovery Logic, or the Content Scrambling Algorithm, or incorporate the Master Key pair.

52. (Original) A method as in claim 48, whereby the step of reading incorporates and implements the functionality of the CSS Authentication Algorithm, and involves the Authentication Key.

53. (Currently Amended) A method as in claim 48, further comprising: whereby
~~the step of reading performs~~ performing the function of an Authenticator for CSS
Decryption Module_[1] ~~;~~ and
wherein the step of playing back ~~performs~~ comprises performing the function of a CSS
Descrambler;
~~as those terms defined in the CSS Procedural Specifications.~~

54. (Canceled)

55. (Canceled)

56. (Canceled)

57. (Currently Amended) A method as in claim 48, whereby, ~~the audio data output from the step of playing back is~~ said playing back analog audiovisual content comprises outputting audio data in either [in] a compressed format or else in a Linear PCM format in which the transmission information is sampled at no more than 48 kHz and no more than 16 bits.

58. (Currently Amended) A method as in claim 48, whereby, ~~the analog video data output from the step of playing back~~ said playing back analog audiovisual content comprises outputting analog video data which does not have higher resolution than standard definition, unless the content recorded on the DVD ~~physical medium~~ has itself that higher resolution.

59. (Currently Amended) A method as in claim 45, wherein the protected form includes at least ~~two~~ one of:

an encrypted form of the digital content;

an encrypted form of the digital content scrambled in accordance with CSS; complying with the CSS license;

a form of the digital content including digital rights information;

a form of the digital content including digital rights information for which it is substantially difficult to remove that digital rights information.

60. (Currently Amended) A method as in claim 45, wherein the protected form includes an encrypted form of the digital content scrambled in accordance with CSS; complying with the CSS license; and

an additional layer of protection, by any technique, for any substantial portion of the steps of reading, storing, and playing back.

61. (Currently Amended) A method as in claim 45, wherein the step of reading occurs in ~~at least one DVD drive~~ in a media reader having at least one DVD drive.

62. (Canceled)

63. (Original) A method as in claim 61, wherein the media reader includes a first authenticator.

64. (Currently Amended) A method as in claim 63, wherein the method complies with the CSS license and the CSS procedural specification ~~procedures~~.

65. (Currently Amended) A method as in claim 64, wherein ~~part of complying with said CSS procedures includes~~ said reading comprises having the first authenticator and a second authenticator authenticate each other before permitting access to data.

66. (Canceled)

67. (Currently Amended) A method as in claim 64, ~~wherein part of complying with said CSS procedures includes~~ further comprising:

extracting keys that can be used to descramble CSS data, by an indirect manner from the key materials copied from the DVD ~~optical disc~~, using a key associated with the playback device, that key not being available from the DVD, in compliance with the CSS license and the CSS procedural specification ~~optical disc~~.

68. (Currently Amended) A method as in claim 64, ~~wherein part of complying with said CSS procedures includes~~ said reading comprises having the first authenticator and [a] ~~[the]~~ second authenticator authenticate each other before the media reader permits access to data, and said playing back comprises using CSS descrambling procedures.

69. (Original) A method as in claim 45, wherein at least two of the following steps occur at logically remote locations: the step of reading, the step of non-evanescently storing, and the step of playing back.

70. (Original) A method as in claim 45, wherein at least two of the following steps occur at physically remote locations: the step of reading, the step of non-evanescently storing, and the step of playing back.

71. (Original) A method as in claim 45, wherein the step of playing back occurs at a plurality of playback devices, at least two of those playback devices being pairwise substantially physically remote from each other.

72. (Currently Amended) A method as in claim 45, wherein a substantial time duration ~~occurs~~ may occur between the step of non-evanescently storing and the step of playing back.

73. (Canceled)

74. (Currently Amended) A method as in claim 45, wherein the digital content ~~is~~ may be transported [a] ~~[any]~~ substantial distance between the step of reading and the step of playing back.

75. (Currently Amended) A method as in claim 45, wherein ~~at least one~~ [a] system internal link is used between two of the steps of reading, non-evanescently storing, and playing back, the ~~at least one~~ system internal link ~~including a link~~ able to communicate compressed digital data representing media streams ~~but which need not be substantially able to effectively and timely communicate uncompressed digital data representing media streams; and~~

wherein any key materials in data communicated using the system internal link ~~is~~ are not substantially accessible to an external entity without an authorized cryptographically secure key.

76. (Withdrawn)

77. (Withdrawn)

78. (Canceled)

79-102. (Withdrawn)

103. (Previously Presented) Apparatus as in claim 1, wherein the storage element includes an array of magnetic disk drives wherein data is stored redundantly in such a way that all data may be recovered after the failure of any one disk drive therein.

104. (New) Apparatus as in claim 1, wherein said playback device further comprises a plurality of outputs configured to simultaneously output said media stream.

105. (New) Apparatus as in claim 1, wherein said playback device further comprises a second output configured to output a second media stream.

106. (New) Apparatus as in claim 1, wherein the media stream comprises analog audiovisual content in a protected form including analog copy protection.

107. (New) Apparatus as in claim 106, wherein the analog copy protection comprises Macrovision copy protection.

108. (New) Apparatus as in claim 1, wherein the media stream is protected with a technique substantially similar to high-bandwidth digital content protection (HDCP).

109. (New) Apparatus as in claim 34, wherein the apparatus is configured to extract keys that can be used to descramble CSS data, by an indirect manner from the key materials copied from the DVD, using a key associated with the playback device, that key not being available from the DVD.

110. (New) A method as in claim 45, wherein said conversion comprises adding Macrovision copy protection.

111. (New) A method as in claim 45, wherein said conversion comprises applying a technique substantially similar to high-bandwidth digital content protection (HDCP).

112. (New) A media playback device, comprising:
a network connection for receiving digital content from a remote media storage device, said digital content scrambled in accordance with a content scramble system (CSS);
a CSS descrambler, coupled to said network connection, for processing said digital content into a media stream for presentation; and
an output, for outputting said media stream to a presentation device,

wherein said media stream comprises a signal in compliance with a standard for protected signals specified by the CSS procedural specifications.

113. (New) The media playback device of Claim 112, wherein said media stream comprises audio data in either a compressed format or in a Linear PCM format in which the transmission information is sampled at no more than 48 kHz and no more than 16 bits.

114. (New) The media playback device of Claim 112, wherein said media stream comprises analog video data having resolution no higher than standard definition, unless said digital content has resolution higher than standard definition.

115. (New) The media playback device of Claim 112, wherein said media stream comprises analog audiovisual data protected by an analog copy protection scheme.

116. (New) The media playback device of Claim 115, wherein said analog copy protection scheme comprises Macrovision copy protection.

117. (New) The media playback device of Claim 112, wherein said media stream comprises digital audiovisual data protected by a digital copy protection scheme substantially similar to the high-bandwidth digital content protection (HDCP) scheme.

118. (New) The media playback devices Claim 112, further comprising:

a second output for outputting said media stream to a second presentation device.

119. (New) The media playback device of Claim 112, wherein said network connection is also for receiving additional digital content from said remote media storage device, said CSS Descrambler is also for processing said additional digital content into a second media stream, and said media playback device further comprises:

a second output for outputting said second media stream to a second presentation device wherein said second media stream comprises a signal in compliance with a standard for protected signals specified by the CSS specifications.

120. (New) A system, comprising:

a media reader having a read element capable of being coupled to a DVD complying with the CSS specifications and containing digital content; and

a storage element having an input operable for receiving the digital content from the media reader,

wherein the storage element is operable to non-evanescently store the digital content in a manner substantially different from the DVD, such that the stored digital content is protected by a content scrambling algorithm.

121. (New) The system of Claim 120, wherein said media reader incorporates and implements functionality associated with a CSS Authentication Algorithm, and comprises an associated Authentication Key.

122. (New) The system of Claim 120, wherein said media reader comprises a DVD drive.

123. (New) The system of Claim 122, wherein said DVD drive comprises a first authenticator, said media reader comprises a second authenticator, and said system is configured to have said first authenticator and said second authenticator authenticate each other before said media reader accesses said DVD.

124. (New) The system of Claim 120, wherein said storage element comprises a magnetic disk drive.

125. (New) The system of Claim 120, wherein said storage element comprises sufficient storage to concurrently store digital content corresponding to a plurality of DVDs.

126. (New) A method of reading and storing digital content, comprising:
reading the digital content from a DVD compliant with the CSS specifications;
sending the digital content to a storage device; and
storing the digital content non-evanescently, in a manner substantially different from the DVD, such that the stored digital content is protected by a content scramble system (CSS).

127. (New) The method of Claim 126, further comprising:

authenticating a media reader, before said reading is allowed to occur.

128. (New) A system, comprising:

a storage element for non-evanescently storing digital content derived from a DVD, stored using a technique substantially different from the DVD, and protected by a content scramble system (CSS), the storage element having an output for sending the digital content; and a playback device for producing a media stream derived from the digital content, and having an input for receiving the digital content from the storage element.

129. (New) The system of Claim 128, wherein said media stream comprises audio data in either a compressed format or in a Linear PCM format in which the transmission information is sampled at no more than 48 kHz and no more than 16 bits.

130. (New) The system of Claim 128, wherein said media stream comprises analog video data having resolution no higher than standard definition, unless said digital content has resolution higher than standard definition.

131. (New) The system of Claim 128, wherein said media stream comprises analog audiovisual data protected by an analog copy protection scheme.

132. (New) The system of Claim 128, wherein said media stream comprises digital audiovisual data protected by a digital copy protection scheme substantially similar to the high-bandwidth digital content protection (HDCP) scheme.

133. (New) The system of Claim 128, wherein operation of said system allows for a substantial time duration between a first time of storage of said digital content at said storage element, and a second time of output of said media stream.

134. (New) A method of playing back stored digital content, comprising:
accessing the stored digital content, the stored digital content having been derived from a DVD compliant with the CSS specifications, stored using a technique substantially different from the DVD, and protected by a content scramble system (CSS);
sending the stored digital content to a playback device; and
producing a media stream derived from the stored digital content for playback.

135. (New) The method of Claim 134, wherein a substantial time duration elapses between a first time when said digital content is stored and a second time when said digital content is accessed.